

July 31, 1998, which is a Continuation-in-Part of U.S. Application No. 09/092,453, filed June 5, 1998, the disclosures of which are incorporated herein by reference for all purposes.

IN THE CLAIMS:

Cancel claims 1-120. Add claims 1-8.

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~~1.~~ A device for the detection of ligands comprising:
at least one receptor capable of binding to a ligand to form a receptor-ligand complex, wherein the formation of the receptor-ligand complex produces a signal; and
an amplification mechanism, wherein said amplification mechanism is a lyotropic liquid crystalline material coupled to the receptor, and wherein said amplification mechanism amplifies said signal upon receptor-ligand complex formation.

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~~2.~~ The device of claim 1, wherein the receptor is an antibody selected from the group consisting of monoclonal, polyclonal and molecularly engineered antibodies, wherein said antibodies form a signal-producing receptor-ligand complex when the receptor binds to the ligand.

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~~3.~~ The device of claim 1, wherein the ligand is a pathogenic agent.

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~~4.~~ The device of claim 1, wherein the amplified signal is generated by a change in optical characteristics of the lyotropic liquid crystalline material.

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~~5.~~ A device for the detection and monitoring of the presence of ligands comprising:

multiple wells, each well having a predetermined receptor therein, wherein said receptor is capable of binding to a ligand, and wherein the formation of the receptor-ligand complex produces a signal; and

an amplification mechanism, wherein said amplification mechanism is a lyotropic liquid crystalline material coupled to the predetermined receptor, and wherein said amplification mechanism amplifies said signal upon binding of a specific ligand to its predetermined receptor.

126 6. The device of claim 5, wherein the receptor is an antibody, wherein said antibody forms a signal-producing receptor-ligand complex upon ligand binding.

127 7. The device of claim 6, wherein the antibody is selected from the group consisting of monoclonal, polyclonal and molecularly engineered antibodies.

128 8. The device of claim 5, wherein the amplified signal is transduced into an optically perceptible signal.

REMARKS

Status of the Claims

Claims 1-8 are pending in the present application. The addition of each of claims 1-8 is fully supported by the specification as filed. The elements of the claims and the interactions of the elements are supported throughout the specification, including the examples. Specific examples of written support include, for claim 1, the element of a receptor capable of binding to a ligand is found at page 8, lines 13-16 ("contacting with the analyte a recognition moiety for the analyte."). The element of forming a receptor-ligand complex is found at page 52, lines 28-32. The element of using a lyotropic liquid crystal is found at page 20, lines 21-23. The element of amplifying the binding interaction is found at page 47, lines 20-24.

For claim 2, different antibody motifs useful in practicing the invention are found at page 45, lines 1-2, 5 and 8. For claim 3, support is found at page 52, lines 26-28 and page 57, lines 7-13. The language on page 52 makes it clear that the disclosed invention is of use to detect any species that interacts with the recognition moiety.